

**AMENDMENT(S) TO THE CLAIMS**

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4       1.     (previously presented): A method comprising;  
5       compressing video objects;  
6       generating at least one corresponding elementary stream comprising the  
7       compressed video objects;  
8       classifying information within each elementary stream based on importance  
9       and responsive to the compressed video objects as affected by at least one user  
10      interaction via a remote device that is operatively coupled across a network; and  
11      assembling the classified information into packets associated with different  
12      classes of network packets.

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14       2.     (original): The method as recited in Claim 1, wherein classifying the  
15      information within each elementary stream based on importance further includes  
16      assigning different priority levels to shape, motion, and texture information.

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18       3.     (original): The method as recited in Claim 2, wherein assembling  
19      the classified information into packets associated with different classes of network  
20      packets further includes selectively multiplexing a plurality of the network packets  
21      with the same priority level into an application level packet.

1           4.     (original): The method as recited in Claim 2, wherein assembling  
2 the classified information into packets associated with different classes of network  
3 packets further includes arranging the content of at least one of the network  
4 packets in an interleaving fashion.

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6           5.     (previously presented): The method as recited in Claim 1, wherein  
7 the different classes of network packets are associated with the network, which  
8 provides differentiated services (Diff- Serv) such that an adaptive transmission  
9 environment is implemented for multimedia communications using scalable coding  
10 technology.

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12           6.     (previously presented): A method comprising:  
13         packetizing content information;  
14         generating resource coordination information based at least in part on at  
15 least one prioritizing parameter associated with an application communicating the  
16 content information and on one or more prioritizing parameters associated with a  
17 user interaction via a remote device that is operatively coupled to a network;  
18         selectively associating each packet of content information with a service  
19 class selected from among at least two different service classes based on the  
20 resource coordination information;  
21         selectively outputting at least one packet of content information based on a  
22 priority associated with the service class associated with the packet of content  
23 information; and  
24         providing the at least one packet of content information to the network.  
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1           7.     (previously presented): The method as recited in Claim 6, wherein  
2 the user interaction comprises at least one of mouse clicking, mouse moving, fast  
3 forward, fast backward, object zoom-in, object zoom-out, add or delete.

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5           8.     (original): The method as recited in Claim 6, wherein generating the  
6 resource coordination information further includes generating the resource  
7 coordination information based at least in part on at least one prioritizing  
8 parameter associated with a monitored performance of the network.

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10          9.     (original): The method as recited in Claim 6, further comprising  
11 encoding initial content information as the encoded content information.

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13          10.    (original): The method as recited in Claim 9, further comprising  
14 segmenting raw video data into a plurality of video objects and wherein at least  
15 one of the video objects is included in the initial content information.

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17          11.    (previously presented): The method as recited in Claim 9, wherein  
18 the initial content information includes data representing media information  
19 selected from a group comprising video information, audio information, image  
20 information, and textual information.

1           **12.**   (previously presented): A computer-readable media comprising  
2 computer instructions for performing acts comprising:

3           generating prioritization information based at least in part on at least one  
4 parameter associated with an application streaming media information and on one  
5 or more prioritizing parameters associated with a user interaction via a remote  
6 device that is operatively coupled to a network;

7           associating packets of the media information with a service class selected  
8 from a plurality of different service classes based on the prioritization information;

9           selectively discarding a portion of the packets of the media information in  
10 accordance with an adaptive rate control mechanism at a sending computing  
11 device; and

12           selectively outputting from the sending computing device onto the network  
13 some of the packets of media information based on their respective service classes.  
14

15           **13.**   (previously presented): The computer-readable media as recited in  
16 Claim 12, wherein the media information includes data representing media  
17 information selected from a group comprising video information, video objects,  
18 audio information, image information, and textual information.  
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20           **14.**   (canceled)  
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22           **15.**   (canceled)  
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24           **16.**   (canceled)  
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17. (canceled)

18. (canceled).

1           19.   (currently amended): An apparatus comprising:  
2           packetizer logic configured to receive encoded content information and  
3           output corresponding packets of content information;  
4           collaborator logic operatively coupled to the packetizer logic and  
5           configured to receive at least one prioritizing parameter associated with at least  
6           one application, including an application communicating the content information,  
7           and one or more prioritizing parameters associated with a user interaction via a  
8           remote device that is operatively coupled to a network; the collaborator logic  
9           further configured to output resource coordination information based at least in  
10          part on the at least one prioritizing parameter associated with the application and  
11          the one or more prioritizing parameters associated with the user interaction;  
12          priority mapping logic operatively coupled to the collaborator logic ~~and~~  
13          ~~configured to receive the packetized content information and the resource~~  
14          ~~coordination information and operatively coupled to the packetizer logic to receive~~  
15          the packetized content information, and the priority mapping logic configured to  
16          selectively associate each received packet of content information with a service  
17          class selected from among at least two different service classes based on the  
18          resource coordination information, and to selectively output at least one packet of  
19          content information based on a priority associated with each service class; and  
20          forwarder logic operatively coupled to the priority mapping logic and  
21          configurable to provide the at least one packet of content information to the  
22          network.  
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1           **20.**   (previously presented): The apparatus as recited in Claim 19,  
2 wherein the user interaction comprises at least one of mouse clicking, mouse  
3 moving, fast forward, fast backward, object zoom-in, object zoom-out, add or  
4 delete.

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6           **21.**   (previously presented): The apparatus as recited in Claim 19, further  
7 comprising:

8                   network monitoring logic operatively coupled to the collaborator  
9 logic and configurable for use with the network and in monitoring network  
10 performance, and to output at least one prioritizing parameter associated with the  
11 network performance, and

12                   wherein the collaborator logic is further configured to receive the at  
13 least one prioritizing parameter associated with the network performance, and  
14 output the resource coordination information based at least in part on the at least  
15 one prioritizing parameter associated with the network performance.

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17           **22.**   (original): The apparatus as recited in Claim 19, further comprising:  
18                   encoding logic operatively coupled to the packetizer logic and  
19 configured to encode initial content information, and output corresponding  
20 encoded content information.

1           **23.**   (original): The apparatus as recited in Claim 22, further comprising:  
2                   segmentation logic operatively coupled to the encoding logic and  
3 configured to segment raw video data into a plurality of video objects, and output  
4 initial content information that includes at least one video object.  
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6           **24.**   (previously presented): The apparatus as recited in Claim 22,  
7 wherein the initial content information includes data representing media  
8 information selected from a group comprising video information, audio  
9 information, image information, and textual information.  
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1       **25.**    (currently amended): A system comprising:

2       a network environment including a backbone network, and a first access  
3 network and a second access network each being operatively coupled to the  
4 backbone network;

5       a plurality of host devices including a first host device operatively coupled  
6 to the first access network and a second host device operatively coupled to the  
7 second access network, the second host device receiving a user interaction; and

8       a plurality of application-aware resource controllers including a first  
9 application-aware resource controller operatively configured within the first access  
10 network and a second application-aware resource controller operatively configured  
11 within the second access network, wherein the first application-aware resource  
12 controller is configured to ~~selectively~~ aggregate content information associated  
13 with at least one communication session established between the first host device  
14 and the second host device via the network environment and to map the aggregated  
15 information to at least two service classes selected from a group of two or more  
16 different service classes based at least in part on one or more prioritizing  
17 parameters associated with the user interaction.

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19       **26.**    (previously presented): The system as recited in Claim 25, wherein  
20 at least the first application-aware resource controller is configured to selectively  
21 adapt a flow rate associated with the content information based on an identified  
22 state of at least one of the first access network, the second access network, or the  
23 backbone network .

1           **27.**   (previously presented): The system as recited in Claim 25, wherein  
2 at least the first application-aware resource controller is configured to selectively  
3 adapt a flow rate associated with the content information based on at least one  
4 identified requirement of the second host device.

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6           **28.**   (original): The system as recited in Claim 25, wherein at least the  
7 first application-aware resource controller is configured to control the content  
8 information responsive to application-based signaling.

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10          **29.**   (previously presented): The system as recited in Claim 25, wherein  
11 at least the first application-aware resource controller is configured to operatively  
12 associate a respective priority with each respective service class of the at least two  
13 service classes.

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15          **30.**   (previously presented): The system as recited in Claim 25, further  
16 comprising at least one processing agent operatively configured within the  
17 backbone network and configured to selectively filter the aggregated information  
18 associated with different communication sessions based on identified bandwidth  
19 constraints and service classes.

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21          **31.**   (previously presented): The system as recited in Claim 25, wherein  
22 the content information includes data representing media information selected  
23 from a group comprising video information, audio information, image information,  
24 and textual information.

1           **32.**   (previously presented): The system as recited in Claim 30, wherein  
2 the processing agent is further configured to perform packet-level fast transcoding  
3 and related signaling.  
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5           **33.**   (previously presented): The method as recited in Claim 1, wherein  
6 the user interaction comprises at least one of mouse clicking, mouse moving, fast  
7 forward, fast backward, object zoom-in, object zoom-out, add or delete.  
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9           **34.**   (previously presented): The computer-readable media as recited in  
10 Claim 12, wherein the user interaction comprises at least one of mouse clicking,  
11 mouse moving, fast forward, fast backward, object zoom-in, object zoom-out, add  
12 or delete.  
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14           **35.**   (previously presented): The system as recited in Claim 25, wherein  
15 the user interaction comprises at least one of mouse clicking, mouse moving, fast  
16 forward, fast backward, object zoom-in, object zoom-out, add or delete.  
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